

Atty. Docket No. AARL 01-25
Amdt. Dated Feb. 24, 2005
Reply to Office action of October 29, 2004
Appl. No. 10/025,725

PATENT APPLICATION

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original) A method comprising:
accepting voice input defining at least one spoken word; and
calibrating the at least one spoken word in response to at least one defined speech-energy criterion.
2. (original) The method of Claim 1, wherein said calibrating the at least one word in response to at least one defined speech-energy criterion comprises:
calibrating the at least one spoken word in response to a defined root-mean-squared target value.
3. (original) The method of Claim 2, wherein said calibrating the at least one word in response to a defined root-mean-squared target value comprises:
multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value.
4. (original) The method of Claim 3, wherein said multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value comprises calculating a scaling factor.

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5. (original) The method of Claim 4, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word; and calculating the scaling factor by dividing the defined root-mean-square target value by the calculated root-mean-squared value of the discrete representation of the at least one word.
6. (original) The method of Claim 4, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word; and
calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value.
7. (original) The method of Claim 1, wherein said calibrating the at least one spoken word in response to at least one defined speech-energy criterion comprises:
calibrating the at least one spoken word in response to a defined peak-to-peak target value.
8. (original) The method of Claim 7, wherein said calibrating the at least one spoken word in response to a defined peak-to-peak target value comprises:
multiplying a discrete representation of the at least one spoken word by a scaling factor such that a peak-to-peak value of the multiplied discrete representation is within a defined tolerance of the defined peak-to-peak target value.
9. (original) The method of Claim 8, wherein said multiplying a discrete representation of the at least one spoken word by a scaling factor such that a

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peak-to-peak value of the multiplied discrete representation is within a defined tolerance of the defined peak-to-peak target value comprises:
calculating a scaling factor.

10. (original) The method of Claim 9, wherein said calculating a scaling factor comprises:

calculating a greatest peak-to-peak value of the discrete representation of the at least one word; and
calculating the scaling factor by dividing the defined peak-to-peak target value by the calculated peak-to-peak value of the discrete representation of the at least one word.

11. (original) The method of Claim 9, wherein said calculating a scaling factor comprises:

calculating a greatest peak-to-peak value of the discrete representation of the at least one word; and
calculating the scaling factor to be a number less than one if the calculated greatest peak-to-peak value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated greatest peak-to-peak value is less than a defined lower-end tolerance about the target value.

12. (original) A system comprising:

means for accepting voice input defining at least one spoken word; and
means for calibrating the at least one spoken word in response to at least one defined speech-energy criterion.

13. (original) The system of Claim 12, wherein said means for calibrating the at least one word in response to at least one defined speech-energy criterion

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comprises:

means for calibrating the at least one spoken word in response to a defined root-mean-squared target value,

14. (original) The system of Claim 13, wherein said means for calibrating the at least one word in response to a defined root-mean-squared target value comprises:

means for multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value.

15. (original) The system of Claim 14, wherein said means for multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value comprises:

means for calculating a scaling factor.

16. (original) The system of Claim 15, wherein said means for calculating a scaling factor comprises:

means for calculating a root-mean-squared value of the discrete representation of the at least one word; and

means for calculating the scaling factor by dividing the defined root-mean-squared target value by the calculated root-mean-squared value of the discrete representation of the at least one word.

17. (original) The system of Claim 15, wherein said means for calculating a scaling factor comprises:

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means for calculating a root-mean-squared value of the discrete representation of the at least one word; and

means for calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value.

18. (original) The system of Claim 12, wherein said means for calibrating the at least one spoken word in response to at least one defined speech-energy criterion comprises:

means for calibrating the at least one spoken word in response to a defined peak-to-peak target value.

19. (original) The system of Claim 18, wherein said means for calibrating the at least one spoken word in response to a defined peak-to-peak target value comprises:

means for multiplying a discrete representation of the at least one spoken word by a scaling factor such that a peak-to-peak value of the multiplied discrete representation is within a defined tolerance of the defined peak-to-peak target value.

20. (original) The system of Claim 19, wherein said means for multiplying a discrete representation of the at least one spoken word by a scaling factor such that a peak-to-peak value of the multiplied discrete representation is within a defined tolerance of the defined peak-to-peak target value comprises:

means for calculating a scaling factor.

21. (original) The system of Claim 20, wherein said means for calculating a

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scaling factor comprises:

- means for calculating a greatest peak-to-peak value of the discrete representation of the at least one word; and
- means for calculating the scaling factor by dividing the defined peak-to-peak target value by the calculated peak-to-peak value of the discrete representation of the at least one word.

22. (original) The system of Claim 20, wherein said means for calculating a scaling factor comprises:

- means for calculating a greatest peak-to-peak value of the discrete representation of the at least one word; and
- means for calculating the scaling factor to be a number less than one if the calculated greatest peak-to-peak value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated greatest peak-to-peak value is less than a defined lower-end tolerance about the target value.

23. (new) A method for calibrating an individual recorded spoken word, the method comprising:

- inputting a first value representative of a desired energy corresponding to the individual word;
- recording the individual spoken word;
- converting voice input of the individual spoken word to a digital format; and
- modifying the digital format of the individual spoken word such that a measured energy value corresponding to the modified digital format of the spoken word is substantially equal to the first value.

24. (new) A method as claimed in claim 23, wherein the recorded spoken word includes both noise data and speech data and both the noise and speech

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data are converted to digital format and modified in the same manner.

25. (new) A method as claimed in claim 23, wherein the recorded spoken word comprises noise data and speech data and the calibrating method further comprises multiplying the noise and speech data by the same scaling factor.

26. (new) A method as claimed in claim 23, wherein said modifying comprises:
calculating a root-mean squared value corresponding to the first value;
calculating a root-mean squared value corresponding to the recorded individual word;
calculating a scaling factor by dividing the root-mean-squared value corresponding to the first value by the calculated root-mean squared value corresponding to the recorded individual word.

27. (new) The method of Claim 3, wherein the discrete representation of the at least one word comprises separate respective discrete representations for each word of the at least one word.